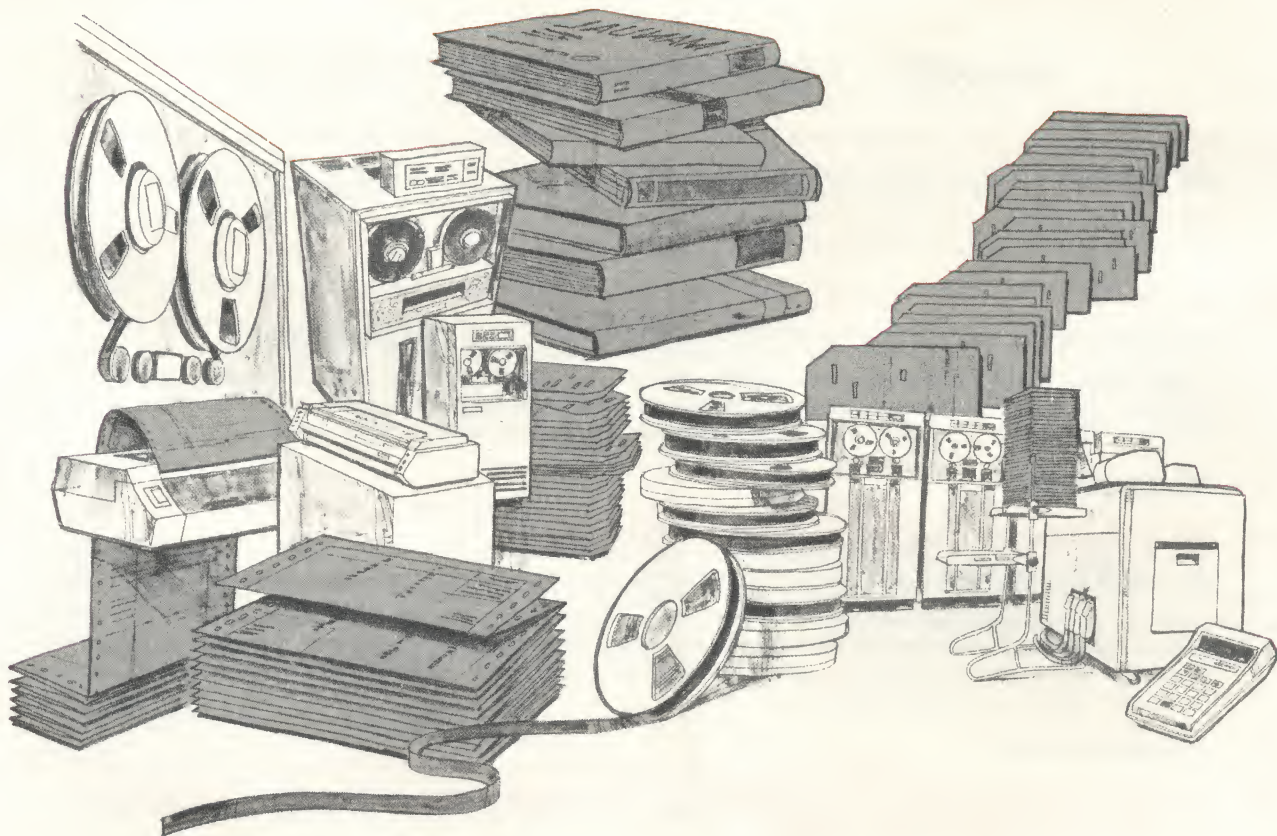


SOFTWARE MANAGEMENT

PHASE II - IMPLEMENTATION

Defense Systems and Other Federal Programs



**A MAJOR CONFERENCE ON THE IMPLEMENTATION
OF NEW GOVERNMENT INITIATIVES**

Sponsored By



A.I.A.A.

AMERICAN INSTITUTE OF
AERONAUTICS & ASTRONAUTICS
Los Angeles Section

In Cooperation With:

AIAA TECHNICAL COMMITTEE ON
COMPUTER SYSTEMS



IEEE COMPUTER SOCIETY
TECHNICAL COMMITTEE ON
SOFTWARE ENGINEERING

WASHINGTON, D.C.
January 27-28, 1977
Crystal City Marriott

BOSTON, MASS.
February 14-15, 1977
Boston Marriott

LOS ANGELES, CA
March 1-2, 1977
Pacifica Hotel

In conjunction with STATE OF THE ART SEMINARS



THE MOST SIGNIFICANT SOFTWARE CONFERENCE SERIES OF THE DECADE

Last Spring, the AIAA (Los Angeles Section), supported by the IEEE Computer Society, joined hands with the Department of Defense to present an urgently needed conference on software management. That conference defined both the state of the art in software management and the formulation of key new DOD software initiatives, in particular DOD Directive 5000.29, "The Management of Computer Resources in Major Defense Systems." The conference was technically and professionally excellent. The attendance and overall response overwhelming. An important need had been met.

Now we are turning our attention to the follow-on topics most requested by our attendees — implementation.

This conference, **Phase II — Implementation**, is in response to those requests. It is devoted to the many and varied facets of software management implementation — both in a general sense and in specific response to the new DOD requirements and initiatives. We have gathered together the outstanding experts in the field (both government and industry) to present their individual implementation experiences relative to **software requirements, technology, design, configuration control, cost control, testing, reliability, quality assurance, and program management**. As a plus, several of the outstanding government speakers on the Phase I program have agreed to speak for us again, changing hats to address their findings and experiences gained during implementation on various programs.

Whether or not you attended the Phase I program, it is vital that you not miss this singularly important program. Please join us.

PROGRAM — FIRST DAY (REGISTRATION 8:00 A.M.)

9:15 KEYNOTE ADDRESS: THE DOD DEFENSE SYSTEMS SOFTWARE MANAGEMENT PROGRAM — OVERVIEW

MR. JACQUES S. GANSLER, Deputy Assistant Secretary of Defense (Materiel Acquisition), OASD (I&L), DOD

• Nature of the Program • Summary of Previous Conference • Current DOD Programs • Organization Focus Within DOD • Policy Initiatives • Technology Thrust • Areas of Concern • Program Prognosis.

10:00 SOFTWARE MANAGEMENT PROGRAM IMPLEMENTATION STATUS AND ACTIONS

MR. BARRY C. DE ROZE, Office of the DASD (Materiel Acquisition), OASD (I&L), DOD

• Requirements Validation/Analysis • Configuration Management and Control • Acquisition Planning • Deliverable Support Software • Milestone Definition and Demonstration Criteria • High Order Language Commonality • R&D Overview • Acquisition Management Handbooks • Personnel Development & Training • Life Cycle Cost Data • Future Plans.

10:45 COFFEE BREAK

11:00 THE B-1 PROGRAM — FLIGHT SOFTWARE DEVELOPMENT

COL. JAMES J. CANADAY, B-1 System Project Office, Aeronautical Systems Division, Wright-Patterson AFB

• B-1 Program — Current Status & Plans • Tailoring Software to a Specific Program • Developing & Controlling the Software • Integrating & Testing Subsystems with the Computer • Specific Software Testing • Testing by Independent Contractors • End User Involvement in Development & Testing • Using Control & Display Workshops • Utilizing Computer Resources • Realizing Benefits from Working Groups and Support Planning.

12:00 LUNCHEON BREAK

1:00 SOFTWARE MANAGEMENT ON THE ARMY BALLISTIC MISSILE DEFENSE SYSTEM TECHNOLOGY (FORMERLY SITE DEFENSE) PROGRAM

MR. JACK M. DREYFUS, Software Project Manager, BMD System Technology Program, TRW/D&SSG

• BMD Software Management Approach • Software Implementation to Date • A New Look at What We Have Learned • Software Design Methodology • Implementation Techniques that Work • Validation Testing — How, What & Where • The Unit Development Folder • Reliability & Quality Impacts • A Programmatic View of DOD Initiatives • Where Do We Go from Here? • Lessons Learned During Implementation.

2:00 AEGIS COMBAT SHIP COMPUTER PROGRAMS — MANAGEMENT APPROACH

DR. RICHARD HOWERY, Manager for AEGIS Computer Program Development, RCA/GSD

• Description of AEGIS Combat Ship Computer Programs • Identifying Functions Performed • Allocating Functions to Computer Resources • Determining Size of Computer Programs • Management Techniques — Differing Approaches • Dealing with Standards and Instructions • Improving Cost Control • Establishing the Design Review Process • Verification/Validation — How it Works • Implementing Interface Control.

3:00 COFFEE BREAK

3:15 DOD SOFTWARE RESEARCH & DEVELOPMENT TECHNOLOGY PROGRAM PLAN

MR. THOMAS NYMAN, Directorate for Electronics & Physical Sciences, DDR&E/DOD

• Strengthening Software Technology Emphasis and Balance • Software Technology Program and Coordination • What are the Funding Projections • Where are the Emphasis Areas • Technology Transfer – Theory & Practice • Assessing Advancements in Language Control • Recent Accomplishments – Their Meaning • Coping With the Future Challenges.

4:15 DOD COMMON HIGH ORDER LANGUAGE PROGRAM – CURRENT STATUS AND PLANS

LT. COL. WILLIAM A. WHITAKER, USAF, Special Assistant to the Director, DARPA/DOD

• DOD Common HOL Program Goals and Objectives – A Review • Comparing the Existing Languages • Analyzing the Economics of HOL Commonality • Designing a Common HOL • Recent Development Plans • What About Implementation & Test • Control Facility Concept – What Is It – How Does It Work • An Advance Look at the Program Schedule and Milestones.

PROGRAM – SECOND DAY

9:00 DOD DIRECTIVE 5000.29 IMPLEMENTATION PROGRAM FOR THE ARMY

COL. JOHN WASSENBERG, Development Manager for Computer Resources, Army Material Development & Readiness Command, Dept. of the Army

• Determining the Management Approach • Life Cycle Implications to Software Acquisition • Technical VS Doctrinal Software – The Difference • Contractual Problems of New DOD 5000.29 • Systems VS Programs – Tailoring the Approach • Post Deployment Support Alternatives – What Are They • Some Actual Examples • Future Steps – Where We Are Headed.

10:00 COFFEE BREAK

10:15 NAVY R&D INITIATIVES IN COMPUTERS AND SOFTWARE

MR. JAMES CAMPBELL, Deputy to the Assistant Secretary of the Navy for R&D, Dept. of the Navy

• Establishing the Objectives • Defining the Priorities • Accomplishments in Computer Standardization • Accomplishments in Compiler Standardization • Outstanding Problems and Concerns – Approaches to Solutions • Use of System Integration and Test Sites • Managing System Development • Training – Requirements & Prognosis • R&D Plans for the Future.

11:15 IMPACT OF MICROPROCESSORS ON THE SOFTWARE ENVIRONMENT

DR. WALTER R. BEAM, Deputy to the Assistant Secretary of the Air Force for R&D, Dept. of the Air Force

• Microprocessors – Their Definitions & Terms • Recent Trends in Microprocessor Utilization • Microprocessors VS Microprogramming • Impact of Software Management on Microprocessors • Plug Replaceable Concepts • Determining Test Strategy for Embedded Microprocessors • Fail Safe Methods – What Are They • Engineering Changes Highly Disciplined – A Must • Management Styles Detailed by Class of Application • New Initiatives Needed – Solving the Problems.

12:15 LUNCHEON BREAK

1:15 SYSTEMS ACQUISITION GUIDEBOOK PROGRAM FOR THE AIR FORCE

MR. JOHN B. MUNSON, Vice President, Technology Operations, System Development Corporation

• What is the Evolving Software Procurement Policy • How Is It Applied to Embedded Computer Software • Implementing the Guidebook Program • How Does Guidebook Relate to Current Policy and Regulations • Analyzing the Full Guidebook Program • Industry Participation – How & Where • Understanding the Goals & Intent • Analyzing the Technical Content • Assessing the Impact on the Software Industry.

2:15 COFFEE BREAK

2:30 SOFTWARE TEST & EVALUATION – A PROGRAM MANAGER'S VIEWPOINT

BGEN. WILLIAM HILSMAN, Project Manager, Army Tactical Data Systems, Dept. of the Army

• Identifying Hierarchical Testing Objective • Dealing with Test & Evaluation Limitations • Establishing Levels of Testing • Where Does Test & Evaluation Begin? • Understanding the Role of the Program Manager • Determining the Role of the Contractor • Independent Verification/Validation – When & How • When to Use Operation Development, Test & Evaluation • How Much Testing is Enough? • Avoiding the Pitfalls.

3:00 MILITARY COMPUTER FAMILY – A NEW APPROACH TO TRI-SERVICE COMPUTER RESOURCE COMMONALITY

MR. AARON H. COLEMAN, Chief, Systems Plans, Standards & Policy, Center for Tactical Computer Systems, U.S. Army Electronics Command, Ft. Monmouth

• Identifying Computer Resource Problems • Defining the Military Computer Family Objectives • Designating the Qualified Family of Military Computers/Associated Software • Applying the Technical Approach • Impact of Computer Architecture Standardization • Product Planning – When – Where & How Much • Examples of Early User/Industry Participation • Defining the Major Milestones • Accomplishments to Date • Future Activities.

4:00 WRAP-UP. MR. GANSLER

CRITIQUES FROM PHASE I ATTENDEES

The enthusiastic and outstanding critiques by the attendees of this conference attest to its overall excellence. Below is a representative sampling of critiques.

"The presentations were first rate professional. . . would rate the conference as of great value!"

— H.C. Menck, Western Electric Co.

"Level of expertise and information in presentations were excellent."

— Robert Wilkes, NAVELEXSYSENGCTR

"A valuable meeting that should have been held years ago."

— H.F. Lanier, Goodyear Aerospace

"Lots of good information available for anyone involved with software. Expertise of speakers excellent."

— Maj. R.W. Harris, USAF

"Straight, candid, ambitious but realistic program."

— LtCol. J.A. Barry, USMC

"Informative and useful. Would like to see this topic pursued annually."

— F.R. Williams, Rockwell International

"Timely and thoughtful theme and topic coverage. Positive enthusiastic atmosphere was refreshing."

— W.A. Bayse, USA Concepts Analysis

"Excellent mix of topics, logically sequenced. . . brings 'the software problem' into focus."

— R.O. Jennett, General Dynamics

"Exceptionally informative and timely — most helpful to lower defense echelons."

— P.O. Langguth, Hq. DARCOM

"Excellent presentations overall."

— J.R. Bellford, IBM Corp.

"Well executed and very informative."

— T.H. Thompson, General Electric

FEE

The registration fee is \$235 per registrant. For AIAA and IEEE Computer Society members (individual membership) the fee is \$210. Fee for Government/Military and University personnel is \$185. Please complete and return the registration form below or register by phone. Registration fees are payable in advance. Tuition, handouts, bound proceedings and refreshments are included in the fee.

ACCOMMODATIONS

Hotel accommodations should be arranged directly with the hotel. Be sure to mention the "AIAA Software Management Conference" to qualify for the group rate. **Reservations should be made at least 3 weeks in advance.** For Washington, call (703) 521-5500; for Boston, (617) 969-1000; for Los Angeles, (213) 649-1776.

CANCELLATIONS

Substitutions can be made at any time. Cancellation of a confirmed registration does not affect the registrant's financial liability unless we receive notice at least 10 days prior to meeting. Registrations may be transferred with full credit at any time before meeting.

TAX DEDUCTION

(Treasury Reg. 1.162.5) An income tax deduction is allowed for expenses of education incurred to (1) maintain or improve skills required in one's employment or other trade or business, or (2) meet express requirements of an employer or a law imposed as a condition to retention of employment, job status, or rate of compensation.

Registration Form

Please Include Entire Mailing Label With Registration

SOFTWARE MANAGEMENT CONFERENCE

PHASE II — IMPLEMENTATION

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